

DUPLICATE

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PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Leena SILAKOSKI

Attn: PCT Branch

Application No. New U.S. National Stage of PCT/FI03/000957

Filed: June 3, 2005

Docket No.: 124096

For: A METHOD OF MANUFACTURING A PRESS FELT, AND A PRESS FELT,  
WITH THE SHAPE OF A CLOSED LOOP

**SUBMISSION OF THE ANNEXES TO THE  
INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Attached hereto is the annexes to the International Preliminary Examination Report (Form PCT/IPEA/409). The attached material replaces the claims

Respectfully submitted,

James A. Oliff  
Registration No. 27,075

Eric D. Morehouse  
Registration No. 38,565

JAO:EDM/cqc

Date: June 3, 2005

**OLIFF & BERRIDGE, PLC**  
P.O. Box 19928  
Alexandria, Virginia 22320  
Telephone: (703) 836-6400

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## CLAIMS

1. A method of manufacturing a press felt, the method comprising at least the following steps of:

forming a base fabric (2), whose at least one layer comprises at least a first planar component (4), which is formed from a plurality of longitudinal yarns (6) that travel in the machine direction (MD) and from transverse yarns (7) that travel in the cross machine direction (CMD), and the first component (4) is provided with a first transverse (CMD) joining edge area (11) and a second transverse joining edge area (12);

arranging the first transverse (CMD) joining edge area (11) and the second transverse joining edge area (12) of the first component (4) to overlap each other and forming a base fabric (2) with the shape of a closed loop; and

attaching at least one batt fibre layer (1, 3) to the base fabric with the shape of a closed loop, and the method comprising

attaching the joining edge areas (11, 12) undetectably to each other before the attachment of the batt fibre layer (1, 3), **characterized by**

forming at least one thinned joining edge area (11, 12), where the density of transverse yarns is smaller than in the other portions of the first component (4),

arranging permeability in the overlapping joining edge areas (11, 12) substantially correspond to that in the rest of the base fabric (2), and

pressing the joining edge areas (11, 12) of the first component (4) against each other during the attachment by a predetermined force (F) so that the thickness (G) of the overlapping joining edge areas (11, 12) substantially corresponds to the thickness of the rest of the first component (4).

2. A method according to claim 1, **characterized** by removing transverse yarns (7) from at least one joining edge area (11, 12) of the first component (4) from a predetermined portion (L).

3. A method according to claim 1, **characterized** by providing, when the first component (4) is formed, at least one joining edge area (11, 12) of the component with a smaller density of transverse yarns than the rest of the first component (4).

4. A method according to any one of preceding claims 1 to 3, characterized by forming a thinned first joining edge area (11) and a second joining edge area (12) in the first component (4).

5. A method according to any one of the preceding claims, characterized by attaching the overlapping joining edge areas (11, 12) to each other by welding.

6. A method according to any one of the preceding claims, characterized by providing at least the portion of the overlapping joining edge areas (11, 12) with an attachment area (15), where the joining edge areas (11, 12) are attached to each other undetachably, and making the boundary surface (16) between the attachment area (15) and the rest of the first component (4) non-linear.

7. A method according to any one of the preceding claims, characterized by

providing at least the portion of the overlapping joining edge areas (11, 12) with an attachment area (15), where the joining edge areas (11, 12) are attached to each other undetachably, and

providing the attachment area (15) with several attachment points (17, 18), which form a pattern that imitates the pattern of the base fabric surface.

8. A method according to any one of the preceding claims, characterized by

forming at least a first planar component (4),

forming at least a second component (5) with the shape of a closed loop,

arranging the first component (4) on top of the second component (5), and

connecting the joining edge areas (11, 12) of the first component (4) with an overlapping joint.

9. A press felt for a paper machine press section, the press felt comprising:

a base fabric (2), which comprises a plurality of longitudinal yarns (6, 8) that travel in the machine direction (MD) and a plurality of transverse yarns (7, 9) that travel in the cross machine direction (CMD) and whose at least one layer comprises at least a first planar component (4), which includes a first transverse (CMD) joining edge area (11) and a second transverse join-

ing edge area (12) and where the joining edge areas (11, 12) have been connected to each other; and

at least one batt fibre layer (1, 3),

and where the first joining edge area (11) and the second joining edge area (12) of the first component (4) have been arranged to overlap each other,

and where the joining edge areas (11, 12) have been attached to each other undetachably before the attachment of the batt fibre layer (1, 3), **characterized** in that

the density of transverse yarns is smaller at least in one joining edge area (11, 12) of the first component (4) than in the rest of the first component (4),

the joining edge areas (11, 12) of the first component (4) have been pressed against each other,

the thickness (G) of the overlapping joining edge areas (11, 12) substantially corresponds to the thickness of the rest of the first component (4), and

the permeability in the overlapping joining edge areas (11, 12) substantially corresponds to the permeability of the rest of the base fabric (2).

10. A press felt according to claim 9, **characterized** in that transverse yarns (7) have been removed from at least one joining edge area (11, 12) of the first component (4) from a predetermined portion (L).

11. A press felt according to claim 9, **characterized** in that at least one joining edge area (11, 12) of the first component (4) is provided with a smaller density of transverse yarns than the rest of the first component (4) during the manufacture.

12. A press felt according to any one of preceding claims 9 to 11, **characterized** in that the joining edge areas (11, 12) of the first component (4) have been attached to each other by welding.

13. A press felt according to any one of claims 9 to 12, **characterized** in that the width of the overlapping area of the joining edge areas (11, 12) of the first component is 5 to 20 mm in the machine direction (MD).

14. A base fabric for a press felt, comprising:

a plurality of longitudinal yarns (6, 8) that travel in the machine direction (MD);

a plurality of transverse yarns (7, 9) that travel in the cross machine direction (CDM);

at least a first planar component (4) in at least one layer of the base fabric (2), and the first component comprises at least a first transverse (CMD) joining edge area (11) and a second transverse joining edge area (12), and where the joining edge areas (11, 12) have been connected to each other, and where

the first joining edge area (11) and the second joining edge area (12) of the first component have been arranged to overlap each other; and

the joining edge areas (11, 12) have been attached to each other undetachably, **characterized** in that

at least one joining edge area (11, 12) of the first component (4) has a smaller density of transverse yarns than the rest of the first component (4),

the joining edge areas (11, 12) of the first component (4) have been pressed against each other,

the thickness (G) of the overlapping joining edge areas (11, 12) substantially corresponds to the thickness of the rest of the first component (4), and

the permeability in the overlapping joining edge areas (11, 12) substantially corresponds to the permeability of the rest of the base fabric (2).

15. A base fabric according to claim 14, **characterized** in that the joining edge areas (11, 12) of the first component (4) are attached to each other by welding.